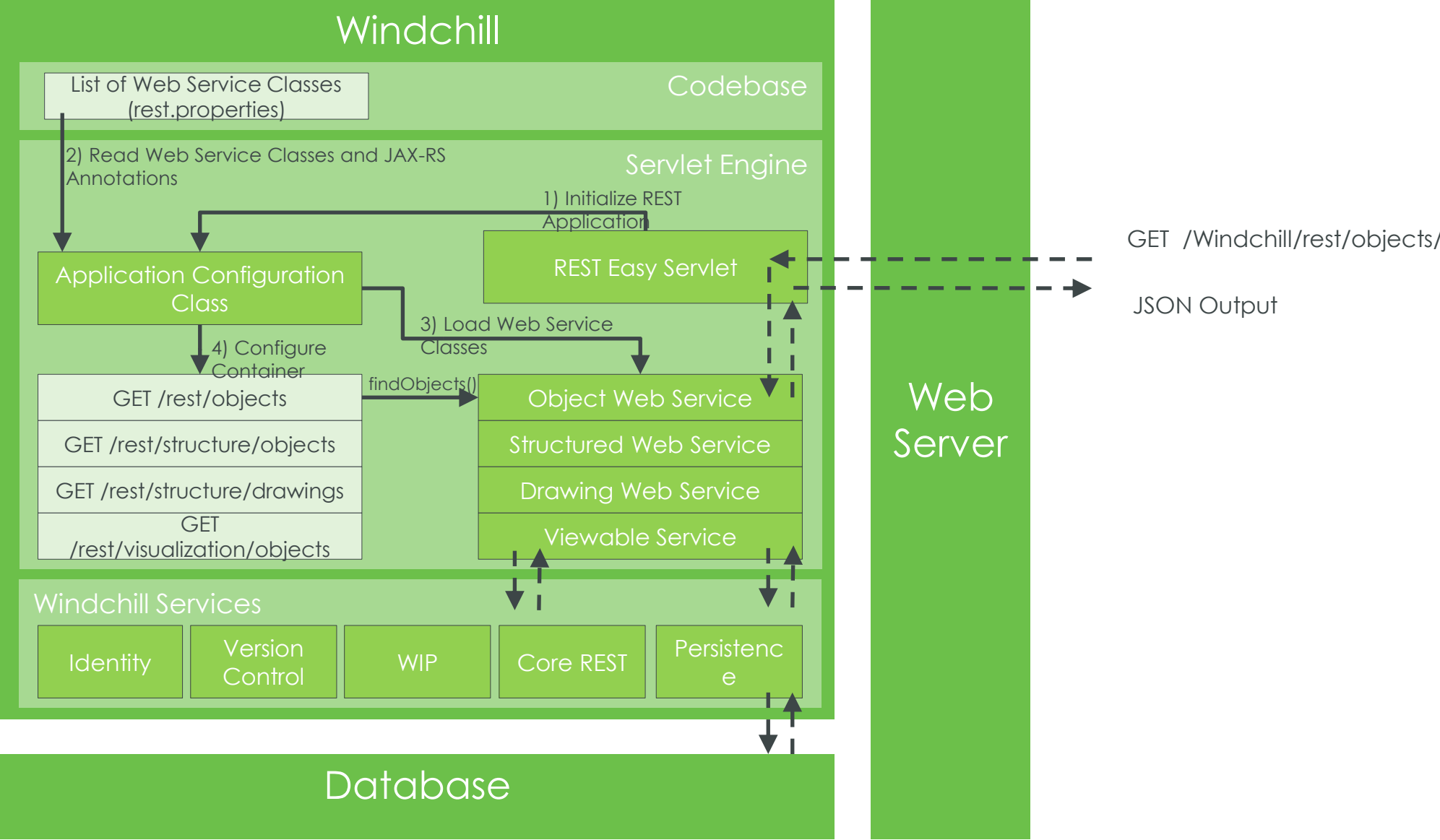


# REST SERVICES IN WINDCHILL

# ARCHITECTURE R11 RESTFUL WEB SERVICES



- Object Web Service
  - Resource: /objects
  - Allows querying Windchill objects and their specified attributes
  - Applies to Windchill business objects

Method Name	Description	Relative URL	HTTP Method
Get Object By Id	Queries the Windchill object specified by its object identifier string	/oid}	GET
Find Objects	Returns a list of Windchill object ids that meet the specified query criteria	/	GET

- Structure Web Service
  - Resource: /structure/objects
  - Allows navigation of objects that are linked together to form tree structures
  - Applies to Parts, Documents, CAD Documents

Method Name	Description	Relative URL	HTTP Method
Get Object By Id	Queries the Windchill object specified by its object identifier string	/oid	GET
Find Objects	Returns a list of Windchill object ids that meet the specified query criteria	/	GET
Get Descendants	Gets child objects for a given Windchill object for multiple levels	/oid/descendants	GET
Get Ancestors	Gets the parent objects for a given Windchill object for multiple levels	/oid/ancestors	GET
Get Uses Summaries	Gets child objects for a given Windchill object with link information (supports multiple levels)	/oid/usesSummaries	GET
Get Used By Summaries	Gets parent objects for a given Windchill object with link information (supports multiple levels)	/oid/usedBySummaries	GET

# VIEWABLE SERVICE

- Viewable Web Service
  - Resource: /visualization/objects
  - Allows access to Windchill visualization data
  - Applies to Parts, CAD Documents

Method Name	Description	Relative URL	HTTP Method
Get Viewable	Gets links to representation and files for a given representable object	/oid	GET

# SAVED SEARCH SERVICE



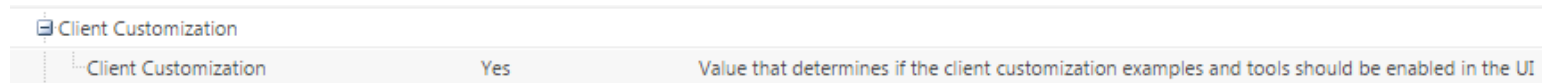
- Saved Search Web Service
  - Resource: /search/saved-searches
  - Allows access to searches saved in Windchill

Method Name	Description	Relative URL	HTTP Method
Find Saved Search	Find a saved search based on given criteria	/	GET
Get Saved Search	Get a saved search given its object identifier string	/oid}	GET
Execute Saved Search	Execute a saved search identified by its object identifier string	/oid}/results	POST

- Drawing Web Service
  - Resource: /structure/drawings
  - Allows access to drawings tied to CAD Documents and Parts

Method Name	Description	Relative URL	HTTP Method
Find Drawing	Finds a drawing for the given part or CAD Document number	/	GET

- Accessing Swagger UI
  - Enable site preference “Client Customization”



- Navigate to **Customization > Documentation > REST APIs** to launch Swagger UI

The screenshot shows the Windchill REST API documentation page. The left sidebar contains a navigation menu with 'Customization' expanded to show 'Component Catalog', 'Tools', 'Test Clients', and 'Documentation'. The main content area is titled 'API' and includes a description: 'API documentation for developers writing Windchill customizations.' Below this, there are links for 'Javadoc', 'JSDoc', 'REST APIs', and 'Tags'. The 'REST APIs' link is highlighted in green, and the 'swagger' icon is also highlighted. Below the navigation links, the 'Windchill REST Endpoints' section is visible, with a description: 'Windchill REST endpoint documentation'. The 'Support' section includes links for 'Community F' and 'Upcoming Ch'. The 'Objects' section lists two endpoints: 'GET /objects' and 'GET /objects/{objectId}'. The 'Saved Search' section is also visible at the bottom.



- Testing a Windchill RESTful Service

**Objects** Show/Hide List Operations Expand Operations

GET /objects Query for objects.

**Implementation Notes**  
Query for objects and fetch their representations.

Response Content Type

**Parameters**

Parameter	Value	Description	Par Typ
\$select	<input type="text" value="name,number"/>	An OData select expression that is a comma-separated list of property names.	que
typeId	<input type="text" value="wt.part.WTPart"/>	The type on which the query should happen e.g. WCTYPE wt.doc.WTDocument	que
\$filter	<input type="text" value="startswith(number, '0000001')"/>	An OData filter criteria in the form of "<propertyName><operator><value> [and   or   not]..." where <operator> is 'eq' or 'ne' or 'le' or other OData comparison operators. For example,  "number eq '0000222341' or name eq 'PTC' or startswith(name, 'PTC')"	que
navigationCriteria	<input type="text"/>	Windchill OID of the navigation criteria or the navigation criteria name or JSON that can be parsed into a navigation criteria. If the searched object is not iterated then it is not necessary to specify the navigation criteria. If not specified, then the latest version is chosen.	que

• Enter parameter values for the RESTful service

**Request URL**

http://hshadna011.ptcnet.ptc.com:80/Windchill/servlet/rest/objects?%24select=name%2Cnumber&typeId=wt.part.WTPart&%24filter=starts

**Response Body**

```
[
  {
    "id": "OR:wt.part.WTPart:229639",
    "typeId": "WCTYPE|wt.part.WTPart",
    "attributes": {
      "number": "000000196",
      "name": "twx_piston_asm.asm"
    }
  },
  {
    "id": "OR:wt.part.WTPart:229637",
    "typeId": "WCTYPE|wt.part.WTPart",
    "attributes": {
      "number": "000000187",
      "name": "twx_valve_lifter.prt"
    }
  },
  {
    "id": "OR:wt.part.WTPart:229636",
    "typeId": "WCTYPE|wt.part.WTPart",
    "attributes": {
      "number": "000000187",
      "name": "twx_valve_lifter.prt"
    }
  }
]
```

**Response Code**

200

• Swagger UI generates the HTTP request to call the service and displays results